

relation to the *Dew*, but after finding the Gnats to be multiplied and the little watry Animals to be much lessened in quantity, and finding great numbers of their empty skins floating on the face of his *Dew*, He thought, he had just reason to perswade himself, the Gnats were by a second Birth produced of those little Animals.

That vapouring away great quantities of his putrefied *Dew* in Glafs Basons, and other Earthen glased Vessels, He did at last obtain, as he remembers, above two pound of *Grayish Earth*, which when he had washed with more of the same *Dew* out of all his Basons into one, and vapoured to siccity, lay in leaves one above another, not unlike to some kind of brown Paper, but very friable.

That taking this Earth out, and after he had well ground it on a Marble, and given it a smart Fire, in a coated Retort of Glafs, it soon melted and became a Cake in the bottom, when it was cold, and looked as if it had been Salt and Brimstone in a certain proportion melted together; but, as he remembers, was not at all inflamable. This ground again on a Marble, *he saith*, did turn Spring water of a reddish purple Colour.

That by often calcining and filtering this Earth, He did at last extract about two ounces of a fine small *white Salt*, which, look'd on through a good *Microscope*, seemed to have Sides and Angles in the same number and figure, as *Rochpeter*.

*The Motion of the Second Comet predicted,
by the same Gentleman, who predicted that
of the former.*

Monfieur *Auzout*, the same Person, that not long since communicated to the World his *Ephemerides* touching the course of the former *Comet*, and recommended several Copies of them to the *Royal Society*, to compare their Observations with his Account, and thereby, either to verifie his Predictions, or to shew, wherein they differ, hath lately sent another *Ephemerides* concerning the Motion of the *Second Comet*, to the same end, that invited him to send the other.

In

In that Tract he observes, first in *General*, that this second *Comet* is contrary to the precedent, almost in all particulars: seeing that the *former* moved very swift, *this*, pretty slow; *that*, against the Order of the signs from East to West, *this*, following them, from West to East: *that*, from South to North, *this*, from North to South, as far as it hath been hitherto, that we hear off, observed: *that*, on the side opposite to the Sun, *this*, on the same side: *that*, having been in its *Perigee* at the time of its Opposition, *this*, having been there, out of the time of its Conjunction: where he taketh also notice, that this *Comet* differs in brightness from the other, as well in its Body, which is far more vivid and distinct, as in its *Train*, whose splendor is much greater, since it may be seen even with great *Telescopes*, which were useless in the former, by reason of its dimness. After this he descends to particulars, and informs us, that he began to observe this *Comet* *April* the second, and continued for some days following, and that as soon as he had made three or four Observations, he resolved to try again an *Ephemerides*; but that, having no instruments exact enough, and the *Comet* being in a place, destitute of Stars, and subject to Refractions, he feared to venture too much upon Observations so neer one another, since in such matters a perfect exactness is necessary, and wished to see some precedent Observations to direct him: which having obtained, he thereby verified what he had begun, and resolved to carry on his intended *Ephemerides*, especially being urged by his Friends, and engaged by his former undertaking, that so it might not be thought a meer hazard, that made him hit in the former; as also, that he might try, whether his Method would succeed as well in slower, as in swifter *Comets*, and in those, that are neer the Sun; as in such as are opposite thereunto, to the end, that men might be advertised of the determination of its use, if it could not serve but in certain particular Cases.

He relateth therefore, that he had finish'd this New *Ephemerides* *April* the sixth, and put it presently to the Press; in doing of which, he hopes, he hath not disobliged the Publick: seeing that, though we should loose the sight of this Star within a few days, by reason of its approach to the Sun, yet having found, that

that it is always to rise before the Sun, and that we may again see it better, when it shall rise betimes, towards the end of *May*, and in the beginning of *June*, if the cleerness of the Day-break hinder us not; he thought it worth the while to try, whether the truth of this *Ephemeride* could be proved.

He affirms then, that the *Line* described by this Star resembles hitherto a *Great Circle*, as it is found in all other Comets in the midst of their Course. He finds the said Circle inclined to the *Ecliptique* about 26. d. 30'. and the *Nodes*, where it cuts it, towards the beginning of *Gemini* and *Sagittary*: that it declines from the *Equator* about 26. d. and cuts it towards the 11. d. and consequently, that its greatest *Latitude* hath been towards *Pisces*, where it must have been *March* 24. and its greatest *Declination*, towards the 25. d. of the *Equator*, where it was to have been *April* 11.

He puts it in its *Perigee* *March* 27. about three of the Clock in the Afternoon, when it was about the 15. degrees of *Pisces*, a little more *Westerly* then *Marchab*, or the *Wing* of *Pegasus*, and that it was to be in *Conjunction* with the *Sun*, *April* 9. Where yet he noteth, that according to another Calculation, the *Perigee* was *March* 27. more towards Night, so that the Comet advances a little more towards the *East*, and retards towards the *West*; which not being very sensible in the first days, differs more about the end, and in the beginning; which he leaves to Observation.

He calculateth, that the greatest Motion it could make in one day, hath been 4. d. and 8'. or 9'; in one hour, about 10'. and 25". so that its *Diurnal Motion* is to its left distance from the Earth a little more than as 1. to 14. and its *Hourly Motion*, as 1. to 330.

He wonders, that it hath not been seen sooner; the first Observations that he hath seen, but made by others, being of *March* 17. Whereas he finds, that it might have been seen since *January*, at least in the Months of *February* and *March*, when it rose at 2 of the Clock and before: because it is very likely, that, considering its bigness and brightness, when it was towards its *Perigee*, it was visible, since that towards the end of *February* it was not three times as much remote from the Earth, than when it was in its *Perigee*, and that towards the end of *January* it was not five times as much,

In the interim, *saiſt he*, the other *Comet* could be ſeen with the naked eye until *January 31.* when it was more than ten times further remote, than in its *Perigee*, although it was not by far ſo bright, nor its ſtreamer ſhining as this hath appeared.

He wiſhes, that all the changes that ſhall fall out in this *Comet*, might be exactly obſerv'd; becauſe of its not being ſwift, and the Motion of the Earth very ſenſible, unleſs the *Comet* be extremely remote, we ſhould find much more light from this, than the former Star, about the Grand Queſtion, whether the *Earth* moves or not: this Author having all along entertained himſelf with the hopes, that the Motion of *Comets* would evince, whether the *Earth* did move or not; and this very *Comet* ſeemed to him to have by deſign appeared for that end, if it had had more *Latitude*, and that conſequently we might have ſeen it before Day-break. He wiſhes alſo, that, if poſſible, it may be accurately obſerved, whether it will not a little decline from its great Circle towards the *South*; Judging, that ſome important truth may be thence deduced, as well as if its motion retarded more, than the place of its *Perigee* (which will be more exactly known when all the paſſed Obſervations ſhall have been obtained) and its greateſt Motion doe require.

He fears only, that it being then to riſe at Break of Day, exact Obſervations cannot be made of it: but he would, at leaſt have it ſought with *Telescopes*, his *Ephemerides* directing whereabout it is to be.

April 10. it was to be over againſt the point of the *Triangle*, and from thence more *Southerly* by more than two degrees; and *April 11.* over againſt the bright Star of *Aries*: *April 17.* over againſt the Stars of the *Fly*, a little more *Southerly*, and *May 4.* it is to be over againſt the *Pleiades*, and about the fourth or fifth of the ſame Month, it is to be once more in *Conjunction* with the *Sun*; after which time, the *Sun* will move from it *Eaſtward*, and leave it towards the *Weſt*; which will enable us to ſee it again at a better hour, provided the cleerneſs of the Day-break be no impediment to us. He addeth, that this Star muſt have been the third time in *Conjunction* with the *Sun*, about the time when it firſt began to appear: and foreſees, that from all theſe particulars many conſiderable conſequences may be deduced.

It will cut the *Ecliptick* about the end of *July*, new Style, a little more *Eastwards* than the *Eye* of *Taurus* : at which time there will be no seeing of it, except it be with a *Telescope*.

It will be towards the *End* of *April*, new style, twice as far distant as it was in its *Perigee*, thrice as far, *May* the fourth, four times, *May* the eighteenth, and five times, *June* the first, &c.

He would not have Men surpris'd, that there have been two *Comets* within so short a time ; seeing, *saith he*, there were four, at least, three, in the Year 1618. and in other Years there have been two and more at the same time. What he adds about their signification, we leave to *Astrologers* to dispute it with him. He concludeth with asking pardon, if he have committed mistakes, which he hopeth he shall obtain the sooner, because of the small time he hath had for these calculations : and he wishes that he could have made all the Observations himself, seeing that it is easie to fail, when one must trust to the Observations of others, whereof we know not the exactness : where he instanceth, that, according to his Observations, the way of the *Comet* should go neerer the *Ecliptick* than he hath marked it, even without having any great regard to the Refractions : but since he would subject himself to others, he hath made it pass a little higher, which, he saith, was almost insensibly so, in those few days that he was observing and writing, but that this may perhaps become sensible hereafter : which if it be so, he affirms that it will cut the *Ecliptick* and *Equator* sooner, than he hath marked it, &c. However, he thinks it convenient, to have given aforehand a common Notion of what will become of a *Comet*, to prepare men for all the Changes that may fall out concerning it : which he affirms he hath endeavour'd to do ; the rest being easie to correct, as soon as any good Observations, somewhat distant, have been obtained, considering, that there need but two very exact ones, a little distant when the Star is not swift, to trace its Way ; although there must be at least three, to find out all the rest. But, then would he have it considered, that although his Method should be very exact, if there be not at hand Instruments big enough, and Globes good enough to trust to, nothing can be done perfectly in these kind of Predictions.